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# BULBS FOR FALL PLANTING

a catalogue of



Daffodils, Tulips, Freesias, Anemones, Ranunculus, Amaryllis, Clivias, Gladiolus, Lilies, and many others

## SPECIAL ARTICLES

The Old Home Town; How to Grow Amaryllis and other bulbs in House and Garden; Acid and Alkaline Soils etc.

### FALL 1940

## CECIL HOUDYSHE

1412 Third Street

LaVerne, California



Division of Fruit & Vegetable Crops & Diseases Bureau of Plant Industry.  
U. S. Dept of Agr.  
Washington, D. C.

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# THE OLD HOME TOWN

## A PERSONAL LETTER TO YOU

Dear Floral Friends:

Since issuing our spring catalog in January, we have had many enthusiastic letters from you telling of your gardens, most of them grown partly or wholly from our bulbs, and several reports about the hardiness of bulbs in northern states.

Almost every one was a friendly letter. We have received numerous bulbs and seeds for trial even from as far away as Dominican Republic and Costa Rica. Many times these are sent as gifts tho we always try to return the favor.

For these letters, the liberal patronage we have received and the bulbs sent for trial we want to express our deepest appreciation.

The other day, Mrs. Houdyshel, with a smile in one hand and her broom handle in the other, said, "Why don't you tell about LaVerne some time in your "Personal Letter."

I am never afraid of her broom handle, for while she can put the Pacific breeze in its place and tell it where to blow she does it in a sweet way. But I



The Herbert Medal. Awarded by American Amaryllis Society.

think her idea is a good one. So I will tell you about LaVerne.

It is just the right sized small city of about 3,500 extra select inhabitants. It is ideally situated among orange groves, flowers and fine trees, near the mountains with the lovely winter vista of snow-capped "Old Baldy" and other peaks.

We have excellent public schools, several churches and a Church College that gives a Christian culture to its pupils.

Our people are church going, honest and thrifty. They all seem to like LaVerne very much and very few ever leave. This fact combined with our climate and beautiful surroundings may be one reason why they usually live to an advanced age.

Indeed it is related that recently one of our preachers asked all of his flock who wanted to go to Heaven, to stand. All rose promptly, except one. When asked why he did not stand, he replied, "Well of course I want to go to Heaven some time, but I sure do hate to leave LaVerne."

I cannot vouch for the authenticity of the following rumor. But it is said that one of our most respected citizens who had passed on into Heaven was observed by St. Peter a few days after his arrival, to be sitting disconso-



lately on the steps near the Pearly Gate. Said St. Peter, "My friend, you do not seem to be enjoying yourself. Why aren't you walking around on our Golden Streets." The LaVerne man replied, "I have done that," and sighed. Said St. Peter, "Have you listened to the glorious music of our Heavenly Choir?" The answer came slowly and without enthusiasm. "Yes." Then striking another angle, St. Peter asked, "Have you looked over our beautiful array of little Angels. There are many with lovely blond tresses. Others with raven locks. But all are exquisite." The LaVerne man still appeared to have a far away look in his eyes as he replied. "Yes, it is all as you say, perfect. But I am awfully lonesome for LaVerne."

I have lived in Southern California for 35 years and most of the last 26 years in LaVerne. It is the place I like best to be,—home in LaVerne. That is why I named one of my best Gladiolus originations, "LaVerne."

I like Iowa, my native state, of course. I lived on a farm back there. My dad raised corn. I would like it better if they put zippers on corn husks. If those crusted snow drifts I climbed over on my way to school were down hill both ways and everybody had skates or skis it would be an improvement.

I like Kansas too where I was brot up. But Kansas zephyrs are not always playful and caressing, and when Jack Frost tweaks my nose or slaps my ears and even pokes his fingers into my eyes I resent the familiarity.

I want to invite all our eastern friends to visit LaVerne and incidentally our Rancho de Las Flores. If coming to California, spend the winter at LaVerne. It is more agreeable near the foothills than at the beaches in the winter, warmer and more sunshine here.

It is quiet and restful here, but when more activity is desired it is only four miles to Pomona with many theaters and churches of almost every denomination. It is only 20 to 35 miles to Los Angeles, Long Beach, Santa Monica, Beverly Hills, Hollywood, Pasadena or Glendale, and easy driving distance from Palm Springs or Santa Barbara.

We would like to have you come to this friendly small town.

No doubt your own home town interests you as much as ours interests us. Has it occurred to you that making your own home and garden attractive is one of the best ways to improve your community? Let us resolve right now to do that and thus encourage others to do the same. Join the garden club or start one.

Best wishes for garden success and abundance of flowers and everything.

Cecil Houdyshel  
LaVerne, Calif.

## INSTRUCTIONS FOR ORDERING AND OTHER INFORMATION

**Prices** in most cases are for one bulb. Unless otherwise stated a dozen costs ten times the price of one and one hundred costs 70 times as much as one. Less than 100 takes the dozen rate. Half dozen at dozen rate. We will be pleased to give a special quotation on large quantities.

**Sales Tax** of 3% must be added to the total of your order by all Calif. customers. Many ignore the tax, which becomes a burden when we pay for many thousand who forget. This is a consumer's not a dealer's tax. We have plenty of taxes of our own.

**Postage Prepaid.** All orders amounting to \$1 or more are mailed or sent by express prepaid anywhere in the United States or its territories. Customers who compare prices and buy accordingly should consider this. Orders under \$1 will be prepaid for 10c extra for postage and handling.

**Insurance**, if wanted is 5c extra. However we replace lost shipments for the cost of postage or express.

**Remit** with the order by check or Money Order. Currency or coins are acceptable but we do not take responsibility for their safe arrival. We prefer no



stamps, but if inconvenient to remit another way we accept stamps if at least 6¢ extra on each \$1 is sent. Our mail is heavy and extra help is required to handle it. My purchases of stamps at this office helps it obtain higher rating and more clerks.

**C. O. D. Orders** involve much extra labor to send. Also at least 25c extra expense on smallest orders for the customer, which the Post Office gets. Frankly, some customers never accept them. So we will only fill C. O. D. orders when one fourth the amount accompanies the order. Cash preferred.

**Wholesale.** We sell wholesale to dealers only. If in California, send your Retail Sales permit number. Establish the fact that you are a dealer, when asking for our Wholesale Price List. We grow large stocks of Pink Callas, Clivias and most items listed.

**Foreign Orders.** We ship bulbs to all parts of the world. We pack carefully (in peat if advisable) for long distance shipments. We prepay postage when only a little more than that to our 8th Zone. But very heavy bulbs, especially when sold at 100 rate will require a little extra for postage. It is better to include it and if too much we will send extra bulbs.

**Catalogs.** The fall catalog is issued about Aug. 15. Spring catalog about Jan. 15. Iris price list about May. Sent only to those who request it. Available now.

**Our Mailing List** is made up of customers. The catalogs go regularly to those who buy. If there is no sale for two successive years we will understand you are no longer interested and drop your name unless you write and request that we do not. It is an unnecessary expense to send catalogs to those not interested. It is a favor when anyone who does not intend to buy will let us know. Simply hand the catalog to your Postmaster and ask him to return it at our expense.

Please print your name and address or write very plainly. We get many we cannot read.

**Your Friends** who love flowers would like to know about us. We will appreciate it if you tell them to request a catalog.

**Exchanging.** We are always glad to exchange for desirable bulbs.

**Substitution.** We have sufficient stocks of all bulbs listed, we think. Late orders may find a very few varieties sold out, but it will take an unusual demand to do that. In such a case we will substitute the variety nearest to the one ordered or something else very good, and usually of more value. If you do not approve, please state "no substitution." Late orders should name substitutes.

**Writing Letters.** We have letters daily asking questions fully answered in our catalogs. Before inquiring by letter, search the catalog thruout. Our culture directions are carefully written to cover all essentials. But we gladly help when necessary.

## CULTURE INFORMATION

Every enthusiastic gardner needs books of reference. We use and recommend Bailey's Cyclopedia of Horticulture. Three large volumes of over 3600 pages. Price \$15.00. A smaller but useful work is Seymour's Garden Encyclopedia. 1200 pages. Price \$4.00. We will be pleased to send either set postpaid for the price. They can usually be found in City Libraries.

We cannot too highly recommend the following magazines. We read every one with both pleasure and profit.

Madison Coopers Gardening, (\$1) Dept. H., Calcium, N. Y.

Sunset Magazine, (2 yrs. for \$1 in the States of Arizona to Idaho and west, or Br. Columbia. East of that U. S., Canada and Mex. \$1 per year.) Other foreign, \$1.50 per year. Dept H., San Francisco, Calif.

Flower Grower, (\$2) Dept. H., Albany, N. Y.

Southland Homes and Gardens, Section of Los Angeles Sunday Times.

Price per year is given in parenthesis. The last three are sold at news stands.

Madison Cooper's Gardening is full of information, of ideas for good living



and high thinking. The editor, Madison Cooper, is a unique personality and his magazine is full of practical advice, information about plants, as well as ideas and ideals for more sane living.

The Flower Garden is an essential part of a gardener's equipment. Ably edited, beautifully printed and illustrated. There are no finer garden magazines published anywhere.

The Sunset for the west and south is indispensable, readable and useful everywhere.

Southland Homes and Gardens brings the best ideas, methods and advice from those most able to give them for this southland.

## GENERAL CULTURE DIRECTIONS

The "green finger" (or thumb) is not essential in the make up of a successful gardener. A "good head" is better. No genius is required because nature itself fits plants to all conditions, not excluding the face of a rock wall.

But we want plants in situations where nature did not place them and that requires some study and thought, some ability to observe and reason, in order to bring about the conditions which the desired plants require.

Our catalogs and magazines and reference works we have recommended supply most of the preliminary information needed. But for complete success it needs to be carefully blended with experience and good judgement.

One needs to accept as a fact that some unlooked for circumstance can cause failure, but such failures need occur only rarely and each failure and each success make us better gardeners.

Special directions are given in this catalog for the culture of bulbs along with the descriptions. But certain general rules apply to most of them.

**Depth and spacing.** Usually bulbs may be planted about two or three times their diameter apart. Small bulbs like Zephyranthes and No. 3 Ranunculus and Anemones should be covered 1" or 2"; large bulbs should usually be planted 4" or 5" deep. Exceptions are mentioned in the proper place. Bulbs should be planted deeper in sandy than heavy soils.

Some bulbs like certain varieties of Glads, make very tall, heavy stems that are easily blown over. Some of them need to be planted 5" or 6" deep. Be sure there is at least 6" of good rich loose earth under the bulb, and 12" is better.

In cold countries bulbs that remain in the ground over winter may be planted somewhat deeper and ground mulched in fall.

**Soil.** Rich sandy loam is probably the best soil for most bulbs. But heavier soils are also good and are preferred by some, especially Bearded Iris. In heavier soils the drainage is likely to be poor if the ground is flat, and this may be improved by deep spading, even to 2', and the incorporation of much humus. Weeds should be turned under, not burned. Half decayed and broken tree and shrub trimmings buried between the 1 foot and 2 foot levels helps the drainage. This physical structure of the soil is even more important than its fertility.

**Fertilizers.** Manure is the safest, all around fertilizer. It can be applied fresh to fallow soils and thus save the nitrates. Do not plant until it has fully rotted. Thoroughly rotted manure can be spaded in a week or so before planting. A month before is safer. Some plants, like Iris and Lilies, should not be planted in manured soils for a long time. Acid loving plants should have much peat or leaf mold, especially from oak trees, in the soil. Use imported peat, as many American peats contain alkali.

Chemical fertilizers are a hazard if not properly used. We will not attempt to tell you how. Superphosphate in small doses is good for Glads and other acid loving plants. For "big feeders" like Hippeastrums, Crinums, Clivias, Fancy Leaf Caladirs, etc., use manure and balanced fertilizers.

Many cut off the tops of bulbous plants as soon as they are thru blooming. Or they let them dry up and die. Results are usually fatal. Keep them watered and cultivated as long as they will grow. That makes good bulbs and good flower buds. Daffodils should grow until late June here and later in the north



if you want large bulbs and many flowers next season. All bulbs should grow a long time after flowering.

**Potting.** Be sure drainage is perfect. If not, the soil becomes soggy and sour and plant dies. Place piece of broken pot over hole. Over that small gravel. Soil may be one third leaf mold or peat; one third fine sand; one third rich garden loam. Use peat for acid loving plants. For bulbs or plants needing a neutral soil, such as Hippeastrums and Daffodils, add a little ground limestone and less peat or none. Pot may be 3 or 4 times the diameter of bulb. Large pots favor growth and increase of bulbs. When first potted see that soil is moist. Place in dark or shade. Darkness encourages root growth. It is very important that roots are well started for a bulb to make good flowers. Light encourages top growth. If this is made without roots the bulb suffers and gives an inferior flower. Bring to full light gradually only when growth is well started. Give little water until growing well. Some bulbs rot if given much water before they are rooted and growing. Some may not bloom if you try to hurry them.

Bulbs should be potted early in order to give plenty of time for root growth. If delayed the results are less satisfactory.

### ACID AND ALKALINE SOILS

Most plants thrive in a wide variety of soils and are not too particular about the soil pH. Such plants are widely distributed and include our most common ornamental and economic plants and especially weeds. But some of our most important plants are very exacting in their requirements.

Among the latter Sugar Cane and Orchids require acid soils. One of our customers in the Dominican Republic states that their soils are strongly alkaline. There the Sugar Cane industry was threatened with extinction because of mosaic until resistant varieties were introduced. Their terrestrial orchids are of poor quality. A change in the soil pH might improve both.

The pH of the soil (or any substance) is measured in units thus, pH 5.5. It refers to the relative acidity or alkalinity and this depends on the concentration of the hydrogen ions. The scale runs 1 to 14. pH 7 is neutral. Below that the acidity increases as the pH decreases. Above pH 7 the scale indicates increasing alkalinity.

Most semi-aquatic plants and shade loving plants do best in a mildly acid soil. This will include most plants that grow in woods or bogs.

Among bulbs the following do much better in mildly acid soils, around pH 6 and some possibly like more acidity. Gladiolus, Vallota, Callas, Caladiums, Arums, Lilies etc. Those requiring neutral to mildly alkaline soils are Iris, Hippeastrums Narcissus etc. Much experiment is being done and much is needed to add to our knowledge on this subject.

The acidity of a soil may be increased by the incorporation of any form of vegetable matter. The best is imported peat, leaf mould and tan bark. In fertilizers Superphosphate, Aluminum sulphate and sulphur are acid.

Lime, gypsum, ground shell, manure with ammonia odor and commercial nitrogenous fertilizers are alkaline.

The pH of the soil may be determined by amateurs who have but little chemical training, with sufficient accuracy by use of a \$1.00 soil testing outfit which we can supply. But it is by no means a necessary adjunct of the successful gardener.

### VITAMIN B-1

The recent discovery of this plant vitamin promises great results. Its use has produced more vigorous growth; larger and better flowers, fruit etc. Especially valuable in transplanting. We brot selected Hippeastrums with budded scape from a distant garden, with bare roots. Soaked roots in solution as recommended. Result. Every flower opened perfectly. Not a leaf wilted. All ripened seeds. Improved form. Thompsons Vitamin B1, 100 pellets with bottle and dropper for stock solution. \$1.00,



## ARRANGEMENT OF CATALOG

Most catalogs are arranged alphabetically. Others are arranged to fit the space allowed by the illustrations. A perfect alphabetic arrangement makes it easy to find any desired item but does not allow the most logical grouping of plants.

Recently we have been working toward a grouping of bulbs offered according to the Families to which they belong. In an approximate manner we also try to place together the genera more closely related. Thus in Iridaceae, Iris and Morea are close relatives and Gladioli, Watsonias, Montbretias, Ixias, etc. are close. This approximate grouping according to botanical relationship will be found useful in many ways. The Amaryllidaceae are arranged alphabetically. Our grouping is by no means perfect.

## AMARYLLIDACEAE

The Amaryllis Family includes many of our most important flowering bulbs, such as Daffodils, Hippeastrums, Clivias etc. This list, from Agapanthus to the Family "Iridaceae," are all Amaryllids.

## THE AMERICAN AMARYLLIS SOCIETY

Flower lovers are becoming "Amaryllis conscious." The use of Amaryllids (bulbs belonging to the Amaryllidaceae) in pots, in the garden or for cutting is growing more popular.

To develop this tendency, to discover new species of value, to aid in their distribution, to sponsor Amaryllis shows and to disseminate useful information, is the purpose of the American Amaryllis Society.

Each year, the year book, *Herbertia*, a volume last year of 258 pages is sent to each member. It is beautifully illustrated and worth much more than the cost of membership which is \$2.00 per year. Send me your application with remittance. You will receive the 1940 *Herbertia* as soon as issued, probably in late fall.

The volumes for 1938 and 1939 now cost \$3.25 each. Complete sets, 6 volumes, 1934-39, \$18.50.

Applications may be made directly, if preferred, to the Secretary, Wyndham Hayward, Winter Park, Fla.

Incidentally, Mr. Hayward is a noted breeder and grower of Hybrid Day Lilies and many other bulbs. Send for his lists.

The National Fall Amaryllis show is an annual event. Sponsored by American Amaryllis Society and held in connection with The Flower Shows at Los Angeles Co. Fair. Date Sept. 19, 1940. Last year more than 25 species of fall blooming amaryllids were shown. These include Amaryllis belladonna types, Lycoris, Nerine, Habranthus, Haemanthus, Pancratium, Vallota, Crinum, Zephyranthes, Hymenocallis etc. Be sure to attend the Fair on this date and see the exhibit. Send entries if possible. Send to L. A. Co. Fair, Pomona Cal. for a premium list.

## HOW TO GROW AMARYLLIS

Most Amaryllids listed are hardy as far north as North Carolina and in the south may be grown in the garden. In the north they are desirable as pot plants. Among the most desirable for potting are Hippeastrums and Clivias.

A few Amaryllids are quite hardy in the north. Among these are Daffodils, Lycoris squamigera and Crinum longifolium. Other Amaryllids may be hardy if planted deep and mulched, in well protected places in milder sections. Alstromerias, Sprekelias and others have been so reported as far north as Ohio.

There are many that can be grown in the garden in summer, then dug and stored like Glads over winter. Among these are Ismenes and other Hymenocallis; most Zephyranthes and Crinums; Tuberose etc. All special directions are given with each species.



Practically all Amaryllids are heavy feeders. Most of them like top-dressing of manure or use of manure water if potted, and bone meal in the soil. When in full growth they should be watered liberally. One frequent cause of failure is lack of good culture after the plant has flowered. At this period growth is necessary for future performance.

**Agapanthus umbellatus.** Blue Lily of the Nile. The name means "Love Flower." Many blue flowers in a large umbel, on 24" stem. The large plants form very attractive clumps with a strap like foliage. Prefer part shade. Very hardy in south and in the north are easily grown and flowered in tubs or large buckets that are wintered in a light warm cellar. 50c. Per doz. \$4.50.

**Alstromeria.** Alstromerias are very showy plants with long slender stems. As a cut flower they last a long time, are very beautiful and are distinctly different from the more common flowers. The individual flowers much resemble a highly colored small orchid. The flowers are in a large umbel on a long stem.

**Culture.** They should have about 50% shade. The soil should be a rich sandy loam with good drainage and a great deal of humus. This may be had from very old rotted screened manure or leaf mold. Plant the cluster of tubers in the south from Sept. to Nov. with the crown 2" under the soil surface. When tops die after flowering withhold water or dig and keep dry. It is better not to disturb them. In the south they start to grow in the fall and will require irrigation before rains come.

They must have an abundance of water at all times when growing and a good drainage. They are hardy as far north as Washington, D. C., and we have them reported hardy in a well protected situation, with winter mulch, in New Jersey and Ohio. In the north they can be planted in the spring. Carefully lift in the fall and store in dry peat or sand, and keep very cool. They also may be grown in large pots, Please order early, as it is hard to hold them back in this warm climate.

**Alstromeria auratiaca lutea.** Bright yellow flowers. A strong grower and blooms a long time. Flowers fine for cutting. 20c. Per doz. \$1.75. Per 100, \$15.

**A. chilensis.** Extremely attractive flowers in a wide range of color from nearly white to various pink, red, yellow and orange tones. One of the best and easiest to grow. Assorted colors only, 20c. Per doz., \$1.75. Per 100, \$15. We have some small bulbs that will bloom well for 75c doz. or \$5.00 per 100.

**A. pelegrina.** Lily of the Incas. Dark rose, with petals spotted reddish purple. Vigorous and showy. 25c. Per doz., \$2.25.

**A. pelegrina alba.** A lovely white unspotted form. 25c. Per doz. \$2.50.

**A. pulchella.** Large clusters of dark red flowers tipped green and brown spots inside. Tall long stems. Early flowering. 30c. Per doz., \$2.75.

**Amaryllis belladonna** (syn. *Callicore rosea*) has many common names—Surprise Lily, Naked Lady Lily, or better Lady Godiva Lily are descriptive of the fact that the flower stem shoots up, bursts into full bloom in only a few days—and is unclothed by any leaves. The soft pink flowers in large umbels are of exquisite beauty and spicy, intriguing fragrance, and valuable for cutting.

**Culture.** It is best to transplant in July but we have a few bulbs dug before blooming that can be held back until (possibly) Sept. 10. Order at once. Late orders will be filled with bulbs that have bloomed as they can be moved until foliage has begun to show. In the south plant in garden with top of bulb a little below the surface. Amaryllis are very hardy for this class and will recover easily from 12° of frost. They may be grown as far north as Washington, D. C.

They are not very successful as pot plants but will bloom the first year, and one flower stalk is well worth the cost of the bulb.

**A. belladonna major.** Earliest, pure pink. 25c. Larger, 35c. Jumbo size, 50c. Doz. \$2.00, \$3.00, and \$5.00.



*A. belladonna minor*. Late. Pink with white throat. 35c.

*A. belladonna*, Late blooming variety, deep rose color. 60c ea.

### CLIVIA (Syn. *Imantophyllum*)

One of the most rare and beautiful of the Amaryllids. They are rare because altho very easy to grow they increase very slowly and seedlings do not bloom until 5 to 7 years old.

The foliage of Clivias is evergreen, strap shaped like *Hippeastrums*, a rich dark glossy green, rather thick and leathery. The flowers are produced in umbels with as many as 20 or more, in late winter to early spring. The colors are orange toned, ranging from a beautiful orange yellow as in *C. miniata* to dark red orange in some of the hybrids.

**Culture.** Contrary to popular belief, Clivias are easy to grow. Considered by some easier than *Hippeastrums* and more sure to flower. That could hardly be true tho. If the *Hippeastrum* is handled right, it is also easy to grow and sure to bloom.

In very mild climates Clivias can be grown in the ground outside in almost full shade, but not in part shade. A trickle of sunlight, constantly moving, thru the leaves is good. The best soil contains heavy or clay soil made porous by adding sand and abundance of humus in form of thoroughly rotted and screened manure or leaf mold, with top mulch of the same. Their natural habitat is in a heavy soil, on a slope, in tree shade.

The drainage must be perfect, such as that afforded by a slope or a porous soil. The best time to plant is before cold weather begins. After acquiring one it is best not to remove from the soil but transplant with ball of earth if necessary.

They easily endure a temperature of 28°. We saved ours in January, 1937, when temperature was 20° by covering.

In the north, Clivias are strictly house plants and there are no finer ones. They should have a cool room in the winter, not a hot, close one. They need plenty of light even tho they soon die in the sun. They also need good ventilation.

During warm weather Clivias must not dry out. Water liberally. During the winter resting period it is better to partly withhold water but not altogether. While blooming, water liberally. In the ground they can have a thick mulch of well rotted manure. Leaves, including oak leaves, make a good mulch. They are hearty feeders. Liquid manure is good during the growing season.

The essentials necessary to success are almost full shade and perfect drainage, rest in the winter.

**Clivia miniata.** This is the hardiest of all and very easy to grow. It is quite safe in the hands of any amateur. It will stand a little sun but should not have much. The flowers are a most pleasing orange of a yellow tone. We recommend this one for a beginner in Clivia culture. Blooming size, \$1.00. Large \$1.50. Extra large \$2.00.

**C. Zimmerman's hybrids.** We have not seen Clivia flowers anywhere that were better than these. They apparently have less of the *C. nobilis* and more *C. miniata* in their ancestry than many European hybrids. This is shown by the more pointed, less obtuse leaves. But the flowers are as large, more wide open, and we think, more lovely. When shown in competition with European hybrids these hybrids have won the blue ribbon. We offer 5 year old, blooming size plants. Many of them will flower next spring but not all. This fact reduces the price, as a plant that has already flowered is considered worth double our price. Price \$5 ea. If desired we will ship pot and all at your expense. Large plants that bloomed last year \$7.50 ea. 3 for \$20. Potted plants if desired by express, charges collect.

**C. miniata hybrids.** Some of our customers express a preference for the



*C. miniata* because of its ease of culture and reliability. But there is no variation in colors. Some of these *miniata* hybrids are very close to *miniata*, others are very different. Some are a very great improvement in size of flowers. We have sold many of these for \$5.00 each. We would like to classify and select them for color variations but time does not permit as there are several thousand in stock. We have therefore decided to reduce the stock first. Any plant in the lot is well worth more than this price. Some are worth double. Large plants, \$2.50 ea., \$24 per doz. Blooming size \$2.00 ea., \$19.00 per doz. \$150 per 100. Small plants should bloom in two years, \$1 ea., \$9.50 per doz. Per 100, \$75.

**Note.** No one can fortell whether or not a *Clivia* will bloom the following season. Hence a "blooming size" *Clivia* is one as large as those plants that do frequently bloom.

*Cyrtanthus* are small bulbous plants about the size of *Zephyranthes*. The lovely long tubular flowers appear abundantly in the spring with a few now and then thruout most of the year. Easy to grow in pots or in garden in half shade. Evergreen. In the north they must be potted to spend the winter in a semi--dormant state. Special reduced prices.

*C. lutescens*. Bright yellow flowers. 35c ea. \$3.50 per doz.

*C. mackenii*. Ivory white. 35c ea. \$3.50 per doz.

## DAFFODILS

This name for all *Narcissi* has the authority of the British Royal Horticulture Society. They are universal garden favorites.

**Culture.** All Daffodils except the *Polyanthus Narcissus* are hardy both in the mild climate of the south as well as in the colder northern states. In the north especially it is best to plant the bulbs rather deep where the frost does not reach. Six inches is about right. Smaller bulbs like Jonquils may go more shallow and be mulched. In California too, and all the south there is an advantage in deep planting. We plant the trumpets at least 4" deep.

Some Daffodil is fitted for about every situation and exposure in the garden. A little shade is good for probably every one and some need about 90% shade in mid-day with full sun only in morning and evening.

Where special requirements are needed, that is mentioned with the description.

The time of planting should not be delayed. Plant early for best results. *Poeticus* should be planted very early. Most of them are ruined if still out of the ground by Nov. 1.

Sandy loam is the best soil, but any good rich garden soil will do. The addition of thoroughly decayed manure is a help. Use no fresh manure. The addition of lime to the soil is good and necessary if leaf mold is used, as they need a mildly alkaline or neutral soil.

Many people cut off the tops of Daffodils after flowering. As a result they do not bloom for several years. Keep them growing as long as possible to increase in number and size and to make a blooming bud for the next season. Remove the leaves only when they begin to turn yellow. That will be in June in So. California.

All Daffodils bloom well in the house, but certain ones are especially suited to pot culture. These are mentioned.

## TRUMPET DAFFODILS

Please note. At the following prices per bulb or per doz., bulbs are mailed, postpaid. The prices "per 100, not prepaid" are shipped by express and you pay this charge on receipt of bulbs.

**Emperor.** Rich golden trumpet, petals lighter, good grower and free bloomer. 10c ea. 85c doz. 100 for \$5.00 not prepaid.

**Glory of Sassenheim.** Golden yellow trumpet, white petals 10c ea. \$1.00



doz. 100 for \$6.00 not prepaid.

**King Alfred.** Large deep golden yellow. Best and most popular. 10c ea. \$1.00 per doz. 100 for \$6.00 not prepaid.

**Olympia.** Golden yellow with frilled trumpet. Hardest and easiest to grow. 10c ea. \$1.00 doz. 100 for \$6.00 not prepaid.

**Robert Sydenham.** Superb heavily frilled trumpet of golden yellow with symmetrical soft yellow perianth. A very large flower of rugged, well proportioned beauty. 15c ea. \$1.50 doz. 100 for \$11.00 not prepaid.

**Tresserve.** Exquisite, large golden yellow, frilled trumpet, 10c ea. \$1.00 doz.

**Van Waveren's Giant.** Enormous but graceful flower. Frilled deep yellow trumpet. Perianth pale yellow. 15c ea. \$1.50 doz. 100 for \$12.00 by express not prepaid.

### INCOMPARABILIS DAFFODILS

**Croesus.** Petals pure gold with a deep red crown. The best at a low price. 25c ea. \$2.50 doz.

**Helios.** Extra early. Large yellow flower with orange yellow crown. 30c ea. \$3.00 doz.

**Homespun.** Soft yellow petals, richly colored crown. 8c ea. 65c doz. \$5.00 per 100 postpaid.

**Sir Watkin.** Petals and trumpet pure yellow. 8c ea. 75c doz. 100 for \$5.00 by express not prepaid.

### BARRI DAFFODILS

**Barri Conspicuous.** Perianth yellow. Cup edged scarlet. Best known Barri. 8c ea. 80c per doz. Per 100 \$5.00 by express, not prepaid.

**Diana Kasner.** Pure white petals and fluted yellow cup with blood red frill. Fine forcer in pots. 30c ea. \$3.00 doz.

### LEEDSI DAFFODILS

**Crystal Queen.** Pure white petals, Crown, primrose fading white. Leader in this class. 20c ea. \$2.00 doz.

### TRIANDRUS HYBRIDS

**Agnes Harvey.** Dainty, pure white daffodil. Needs semi-shade, sandy, well drained soil. No moisture when dormant. 30c ea.

### POETICUS DAFFODILS

Poets Narcissus, loved by poets from Vergil to Tennyson, have white petals with a red edged cup a contrast that gives distinction. Altho they bloom late, they must be planted very early. Some are not too easy to grow but **these are.**

**Horace.** Conspicuous red eye. Free flowering. 10c ea. \$1.00 doz.

**Recurvus.** Pheasant's Eye Narcissus. The variety known by the poet Vergil. 8c ea. 65c doz.

### POLYANTHUS NARCISSUS

The "cluster flowered." Hardy only in mild climates, but unequalled for pots in the house. Highly perfumed. May be grown in bowls of fiber or held up by pebbles in a dish of water.

**Chinese Lily.** White with yellow eye. Blossoms Dec. to Jan. 10c ea. 85c doz.

**Grand Monarque.** White with primrose eye. 10c ea. 85c doz.

**Paper White.** Pure white, earliest. 8c ea. 65c doz.

**Soliel d'Or.** Petals pure deep golden yellow, cup brilliant orange. Makes brilliant effect in the garden here in Jan. Equally fine in the house and goes right on blooming even at 20° F. The most desirable in this group. Special



price, 8c ea. 65c doz. \$5 per 100 post paid. Larger size, same price, charges collect.

### POETAZ HYBRIDS

Hybrids between the Polyanthus and Poet's Narcissus. Hardy and fine in pots or garden.

**Aspasia.** Pure white, yellow cup. Best in this color. 10c ea. 90c doz.

**Abundance.** Creamy yellow, with deep orange cup. 10c ea. \$1.00 doz.

**Orange Cup.** Pale yellow, with deep orange cup. 10c ea. \$1.00 doz.

### JONQUILS

They look like small Trumpet Daffodils, with about three flowers on a stem. Exquisite. Very hardy and rapid multipliers. Fine for potting. A most alluring and distinctive fragrance.

**Camperelle regulosus.** Improved pure yellow. 10c ea. 85c doz.

**Campernelle Orange Queen.** Very striking. Intense golden orange with fluted cup. True Jonquil fragrance. Gayest of all Daffodils. 25c ea.

**Golden Scepter.** A new Jonquil-Daffodil hybrid. Flowers 3" across. Late Deep Jonquil yellow. 30c ea.

**Jonquilla simplex.** The smallest. It has two or three perfectly shaped, tiny daffodils of pure rich yellow topping a 10" stem. It is the sweetest scented of Jonquils, but never heavy like the scent of the Polyanthus. Forces well in pots. To bring this into your gardens it is offered at a special price. 5c ea. 50c doz. Per 100, \$3.50 postpaid.

### NARCISSUS SPECIAL

We have a lot of rogues, lost labels and mixtures. There are a few good ones, rare trumpets, a few Imcomparabilis, Barri, etc., but these are only occasional prizes that only a few will get, as most of the lot are the Polyanthus type. Even the latter are worth at least 60c doz. and you may draw a good one or more. Field run sizes are included, but it is expected that nearly all will bloom the first year. Probably all if planted early. The early orders have the best chance to get some of the good ones. Price, 30 for \$1.00.

**Haemanthus.** This rare amaryllid is very seldom seen in America and they are rare in Europe. We are very fortunate in being able to list two species at a very moderate price.

**H. coccineus.** Blood Lily The rather flat bulb sends up an attractive red mottled flower scape in September, topped by an umbel of many small closely spaced, red flowers, 4" across. They are very odd and attractive. Later two wide leaves appear and lie flat on the ground. In the late spring these die and the plant should then be allowed to dry off completely. If water can be withheld it is not necessary to dig. They can be easily grown outside here and in equally mild climates, and are easy in pots in the north. As they like acid soil it is best to use equal parts of peat or leaf mold around the bulbs. In potting use equal parts of peat or leaf mold and loam that is sandy enough to feel gritty. They may be given weak liquid manure when growing. Bulbs available only until Oct. 1. Price \$1 ea. Extra large \$1.50.

**H. multiflorus.** This species is exceedingly rare and is one of the most striking beauty. These start to grow in the spring and also send up the flower scape before leaves appear. The scape is 12" or more in height, and the umbel from a large bulb is often 12" to 14" across. It is said that these have sold when in bloom in New York for \$25. The very striking appearance and unusual beauty and their rarity would seem to warrant belief of the statement.

We grow this species in pots under a large avocado tree. Here they receive plenty of light and the Pacific breeze, but no direct sun. It must be a cool shade. They do not do well in a close, hot room, indoors. Give them a cool well ventilated room, light but not in the sun.

Use rather large pots, with perfect drainage. The soil must be very sandy



and mildly acid. Do not remove bulbs from pot when established but shift to larger. When foliage dies about Dec. give little or no water until about April and very little then until growth appears. They usually bloom about June. We deliver the bulbs at right time, when dormant about Dec. or later. Fine blooming size bulbs, \$3.50. Large, \$5.00 ea.

**Hippeastrum.** Popularly called **Amaryllis**. The improved hybrids are among the most gorgeous of flowering bulbs either for pots or garden. The colors run from pure white (which are rare and expensive), near white to pink and red variously marked as well as self colors. There are rose, carmine, garnet, ruby and scarlet tones in endless variety. Some have a spicy fragrance. The flowers are usually 4 to an umbel but sometimes 2 up to 7, and up to 8" diam.

**Culture.** Pot the bulbs as soon as received. Before Jan. 1 if possible. Use a rich porous loam containing plenty of humus. Screened, very old rotted manure is the best humus for them. Be sure of perfect drainage. Set the bulb half above the surface of soil in pots, just covered in outside garden. Potted bulbs should be in just slightly moist soil when set, but given very little or no water until bud appears. Set in a moderately warm room, in shade. When bud appears (which may be between Jan. and Mar.) water freely and bring into full light and about 50% sun. During periods of blooming and active growth water liberally and give some weak liquid manure. They can use a little Vigoro, ground sheep manure, or bone meal. When growth seems to be completed, which should happen about Sept. to Nov. gradually dry them off. It does not hurt if leaves mostly die. Some let them dry completely, some don't. For Christmas flowers force as much early growth as possible and give an early rest. After a two or three month rest they are usually ready to start.

Failure to get flowers after the first year may result from inattention and neglect to encourage a vigorous growth after flowering. That can be easiest done, perhaps, by shifting to the garden when warm. Give rich soil, top dressing of manure or manure water occasionally, and water liberally. Then a good long rest must follow before being forced in pots. Do not destroy roots.

In the south these bulbs are ideal for the outside garden. Give a moderately sunny place and rich soil. Avoid use of leaf mould, peat or sulphur in soil for potted plants or out door culture. They like a mildly alkaline or a neutral soil. Bone meal, lime and shell are good.

**Hippeastrum assorted American hybrids.** All colors, mixed and include many reds. Don't ask for certain colors in this lot. 50c ea. \$5 doz. \$35 per 100.

**H. Howard and Smith's hybrids.** We believe this is the best commercial strain in America. Bred for superiority in form and color of flowers. Assorted colors ranging from near white, rose pink, scarlet to deep red in great variety of tones with both markings and self colors. 75c ea. \$7.00 per doz. \$50 per 100.

**H. red hybrids.** A few of these have a little white in throat. No striped ones of vittata type. 75c ea. \$7.50 doz.

**H. near white hybrids.** These have a rich spicy fragrance. They are tall, vigorous and rather late bloomers. The color is white variously marked with pink, but giving the general effect of white. 75c ea. \$7.00 per doz.

**H. equestre.** A lovely salmon pink flower. Small bulbs, plants and flower. I cannot get flowers here in the field but in pots and in other places they flower freely. But no guarantee of first year flower. Our soil is too rich. They need poor, sandy soil and no fertilizer. 25c. \$2.25 per doz.

**H. Johnsoni.** The oldest hybrid, still a favorite. It does best of any for outdoor planting in the south. Equally desirable in pots. Red with white stripe in center of petals. 40c ea. \$4 doz.

**H. McCann's Double.** A new sensational double amaryllis. The large red flowers are very double. We have counted 25 petals on one flower. This is quite different from the small hard to grow H. Alberti. It is easy to grow. \$1.50 ea.



**H. Sibyl Houdyshel.** White, edged pink, with lower petals lightly flushed pink. A very pretty and fragrant flower. \$3.50 ea.

**H. advenum, Oxblood Lily.** This belongs to the subgenus *Habranthus* and this variety is often listed as *Habranthus miniatus*. Color ox-blood red. Blooms in Sept. Foliage dies and bulb rests thru the summer. Our bulbs will bloom at once if planted before Oct. 1. They can't be held back longer, so order at once. Plant 6" deep. 25c ea. \$2.25 doz.

**H. advenum.** Pink form of this species. 35c ea. \$3.50 doz.

**Hymenocallis. Spider Lilies and Ismene.** For the garden defer planting until early spring. The following, however, flower well in pots and may be shifted to the garden after flowering if desired. Delivery in Nov.

**H. calathina.** Ismene or Peruvian Daffodil. Large fragrant white flowers with large daffodil-like cup. Very popular. Large 25c ea. 3 for 65c. Jumbo size, 35c. 3 for 90c.

**H. sp. No. 1.** A dainty, dwarf Spider Lily that blooms well in pots. 25c ea. 3 for 65c.

**H. sp. No. 2.** Large and magnificent species that also performs well as a pot plant. Special price. 50c ea. 3 for \$1.25.

**Leucojum aestivum.** Snowflakes. Hardy everywhere. They bloom here from Jan. on, even when the leaves freeze solid at night, and in the north often before snow has gone. 10c ea. 2 for 15c. 50c doz. Largest, 75c doz.

**Lycoris.** They are very hardy but only one of these is known to be perfectly hardy in the north. The others may be planted in tubs and wintered in a light basement or cellar. They grow all winter, so must be watered. They should be planted outside in all mild climates.

**Lycoris aurea. Golden Spider Lily.** Large umbels of rich yellow flowers spidery in form. So beautiful you think your eyes must deceive you. Possibly too late for flowers now but we try to hold them back and to send one that will bloom. Delivery before Oct. 15 only. \$1.50 ea.

**L. radiata. Red Spider Lily.** Usually sold for *Nerine sarniensis*. Exquisitely beautiful. Deep coral pink, spidery flowers. We dug the bulbs offered early. If planted before Oct. 1, all should bloom, but order at once. 25c ea., \$2.50 per doz.

**L. squamigera. Amaryllis Halli.** This is perfectly hardy in the north, as leaves do not grow until spring. Flowers are lilac to pink. Plant 5" deep and give winter mulch in north. Bulbs offered were dug before flowering. 85c ea.

**Nerines** are almost unknown in America. The bulb usually sold for *Nerine sarniensis* is really *Lycoris radiata*. All Nerines are lovely with their twisted petals and long stamens and pistil. They bloom in the fall. Do fine in pots or the garden. Bulbs planted now may flower this fall but surely will next fall so get them started. Nerines prefer a rich sandy soil containing much humus or peat.

**Nerine filifolia.** A small bulb, with dainty, lovely flowers freely produced in the fall. Grass-like, evergreen foliage. Move any time of year. 15c ea. \$1.50 doz.

**N. rosea crispa.** Late flowering hence bulbs planted before Sept. 15 may flower the first season. Deciduous foliage. 12 to 18 flowers on 18" stem. 35c.

**Sprekelia formosissima. Jacobean Lily.** The gorgeous red flowers have long narrow petals. The three lowest rolled together to enclose the stamens and style and deflexed. This gives a somewhat orchid-like form. Flowers in spring later than *Hippeastrums*. Fine in pots. Be sure to rest them. Hardy to North Carolina and Washington, D. C. Farther north, store like glads or grow in pots. Delivery in Nov. 25c ea., \$2.50 doz. Extra large 40c ea.

**Vallota purpurea.** Blood red flowers in an umbel in late summer to early fall. Resembles *Clivia*. Does very well in pots. Must have abundance of moisture when growing and when semi-dormant in winter only a little. Soil 1-3 rich loam, 1-3 sand, 1-3 leaf mould or peat. Soil mildly acid. Then add a liberal amount of fine well rotted manure. \$1.50 ea.



## IRIDACAE

This plant family includes Gladiolus, Watsonias, Montbretias, Ixias, Babianas, Freesias, Tritonias, Iris, etc. listed in following pages.

### GLADIOLUS

Since we have learned how to grow Gladiolus in spite of the thrips pest, they have become again one of the most popular garden flowers. They are the most popular cut flower.

**Culture.** Plant in full sun preferably. They will bloom in half shade. They do well in any good soil either sandy or heavy. Heavy soils should be lightened previously by spading in heavy crops of weeds or leaves, etc. Manure is good if spaded under several months before planting. Do not use strongly alkaline soils unless the alkali has been neutralized by a mixture of large quantity of peat. Glads prefer a mildly acid soil.

Most fertilizers are too alkaline for glads. The only safe fertilizer is a small quantity of superphosphate. Try a tablespoonful to 3' of row. Apply when well above ground.

Keep the glads wet when growing. They like lots of water. Continuous sprinkling for a half hour every evening (to avoid spoiling if in bloom) is about right and this alone will almost or quite eliminate thrips damage.

Plant large bulbs 4" deep. Very tall ones deeper. One can plant two rows in a wide furrow with bulbs twice their diameter apart. We cover bulbs first with granulated peat, then soil until furrow is almost full, then 1" layer of peat with enough soil on top to keep peat from blowing away. This gives the necessary acidity. But peat makes soil dry out quickly, so give more water if used. Oak leaf mould instead of peat is good.

**Thrips.** When the flowers appear burned on edges the damage was done probably by thrips. This damage may be avoided most simply by planting early, so that they will bloom early in the spring before the thrips attack them. The very best time to plant in Southern California is from Nov. 1 to Feb. 1. In central California one can plant up to March 11. In the east Mar. is a good month.

But little advantage is gained by planting late dug bulbs, early. Be sure you plant early dug bulbs. Ours are dug in August. By Nov. 15 they have had the necessary resting period.

If you will irrigate your glads with overhead sprinkling for about thirty minutes every day you may make later plantings for a succession of bloom. Use overhead pipe, (Skinner system) or sprinkler attached to hose. Even tho thrips are present on your plants if the ground is kept very moist little damage is done.

Whether you've had thrips or not, bulbs should be treated. When you plant your bulbs don't plant thrips too. To kill any thrips on bulbs, immerse them in a solution of one oz. powdered Corrosive Sublimate to 7 gallons of water. Soak bulbs in this 6 hours. Use no metal container and keep animals away as it is a deadly poison. Dissolve the Corrosive Sublimate in a gallon of hot water and dilute. We treat all our bulbs before selling, so no further treatment is necessary. Even tho you may have had thrips one season, do not discard good bulbs. Treat them.

### GLADIOLUS LIST

Our brief descriptions do not do justice to the wonderful beauty of the following varieties. But neither words nor pictures can do that. We have selected for this fall a more extended list of the world's best at moderate prices. High priced ones are scarcely better, tho some may be a little different. Here are the best pinks, reds, whites, blues, yellows, lavenders, smokies and oddly colored glads. Every taste satisfied. Even for the rare and unusual.

**Prices** are for one bulb. Unless otherwise stated, a dozen costs ten times the price of one. Half dozen at dozen rate. Less than 100 takes dozen rate. 500 at 1000 rate, which is 9 times the cost of 100. L. means large, diameter



1 1-4" or more, sizes No. 1 and No. 2. M. means medium, 3-4" to 1 1-4", sizes 3 and 4. S. means small, sizes 5 and 6, 1-4" to 3-4". No. 1 is 1 1-2" or over. All sizes bloom in most sorts but large bulbs usually give taller and more spikes. They will also bloom a few days earlier. Small bulbs usually produce better colors.

Orders for Glads will be filled before Nov. 15 in time to plant. But it is advisable to send order and remittance early as the orders are filled in rotation.

Californians must add 3% sales tax to these prices.

**Aida.** Deep violet blue. Early, large fls., tall, good grower L. 7c.

**Albatross.** Very large pure white. Tall. L. 6c; per 100 \$3.50.

**Allamania.** Immense rosolane purple flowers on very tall spike. Very beautiful. Plant deep. L. 10c.

**Annie Laurie.** Ruffled rose pink. L. 5c. M. 3c.

**Ave Maria.** Early, large, tall, near-blue. L. 5c.

**Bagdad.** Fine large, tall, smoky old-rose. L. 5c. Doz. 45c; 100 for \$2.50. M. 30c doz. Per 100, \$1.25. S. 15c doz. Per 100 80c.

**Betty Co-Ed.** Soft creamy pink, like a school girl's complexion. A small glad that's fine for cutting. L. 5c. 45c doz; Per 100, \$2.25. M. 25c doz. Per 100 \$1.35. S. 15c doz. Per 100 85c.

**Betty Nuthall.** Early, orange pink, yellow throat. L. 5c; doz. 50c; per 100 \$2.25. M. 25c doz.; per 100 \$1.25. S. 15c doz.; per 100 85c.

**Bill Sowden.** Rich deep red. Very large and extra fine. L. 6c; per 100 \$3.50

**Blue Admiral.** New, very tall dark blue. 15c.

**Blue Danube.** Amethyst blue, darker throat. 8c.

**Chas. Dickens.** Tall, fine radiant purple. L. 7c.

**Com. Koehl.** Immense, glowing scarlet. L. 6c. Per 100 \$4.

**Dr. F. E. Bennett.** Flame red. One of best and easiest to grow. Favorite for cutting. L. 5c; per 100 \$2.50. M. 25c doz. Per 100 \$1.35.

**Dr. Moody.** Early large lavender pink. Better and brighter than Minuet. L. 5c. Per 100 \$3.50.

**Faust.** Colors indescribable. Ground color geranium pink. Outer part of petals heavily overlaid with slate to deep livid purple. A smoky. L. 12c.

**Gate of Heaven.** Purest rich, deep yellow. Ruffled. Well named. L. 7c. Per 100, \$5.00

**Golden Dream.** The favorite tall deep yellow. L. 5c. Per 100 \$3.50.

**Healeysville.** An unusual color deep violet purple. 12c.

**Kirchoff's New Violet.** The best of this rare color. L. 7c.

**La Paloma.** Very early bittersweet orange. Vivid color. L. 5c Per 100 \$3. M. 25c doz. Per 100, \$1.50.

**Lavender Delight.** Delightful and unusual color, rose purple. L. 7c; 65c doz.

**LaVerne.** Tall, large creamy yellow, flushed pink. Purple throat blotch. Vigorous. L. 6c.

**Libelle.** Heliotrope blue. The loveliest blue. L. 5c. Per 100 \$3.00.

**Los Angeles.** Orange, tinted pink. One bulb produces more flower spikes than any other. Best winter grower. Such a rampant grower that it should be planted not closer than 6" for large bulbs. Also give more water for best flowers. L. 5c 50c doz. Per 100 \$2.25 M. 20c doz. 100 for \$1. S. 15c doz. 75c per 100. Small sizes bloom beautifully.

**Margaret Fulton.** Coral pink shading to rose doree on tips of petals. L. 6c.

**Mary Elizabeth.** White with yellow throat. Lovely glad. 10c.

**Marmora.** Tall, immense smoky lavender. L. 6c.

**Minuet.** The favorite lavender. L. 6c. Per doz. 55c. Per 100, \$3.00.

**Mrs. Konynenburg.** Most popular deep blue. L. 5c. 100, \$2.50. M. 30c doz.

**Mrs. Leon Douglas.** Tall large geranium pink, splashed darker. Plant deep. L. 6c.

**Pelegrina.** Deep violet blue. Early, strong grower. L. 5c. Doz. 50c. Per 100, \$2.25.. M. 30c doz. Per 100, \$1.25. S. 25c doz. Per 100, \$1.00.

**Pfitzer's Triumph.** Immense salmon-red. L. 6c. Per 100, \$3.25.



**Picardy.** The most popular glad, for the garden or for cutting. Tall, extra large, shrimp pink. L. 5c. Doz. 45c. Per 100 \$2.25. M. 25c doz. Per 100, \$1.00. S. 15c doz. Per 100, 75c.

**Radiant Orange.** Our largest and best true orange. A combination of yellow orange, salmon orange, bittersweet orange and grenadine red. L. 10c.

**Red Lory.** Scarlet red with rhodamine purple throat. A fine red. L. 6c. Per 100. \$3.50.

**Rose Marie Pfitzer.** Very beautiful creamy white, suffused pink. Ruffled A large and beautiful flower. L. 12c.

**Ruffled Gold.** A lovely ruffled yellow. L. 10c.

**Souvenir.** Pure deep yellow. Prim. The small flowers on wirey stems are graceful, extra fine for bouquets. L. 5c. \$2.50 per 100. M. 30c doz. \$1 per 100.

**Star of Bethlehem.** Large, pure white flowers on a tall vigorous stem. Considered the best white in the cut flower market. L. 7c. Per 100 \$4.50.

**The Orchid.** Individual flowers in a corsage are easily mistaken for a catalpa orchid in both color and form. L. 10c.

**The Orient.** An unusual color. Small prim. Flowers are light coral red flaked livid purple. Rosolane purple throat blotch. Petals edged yellow. L. 7c.

**Virginia.** An old stand-by and there is no sweeter red. L. 5c. Per 100, \$3.00.

**Wasaga.** A lovely apricot. L. 5c. Per 100 \$3.50. M. 30c doz., \$1 per 100.

**Mixed Bulbs.** A lot of bulbs are mixed accidentally. Surplus sorts are added. Sometimes we discard new sorts that others like. This mixture in bulbs 1" to 1 1-2" diam. sizes 1, 2 and 3 are offered at 45c doz. or \$2 per 100. M. 25c doz., \$1.00 per 100. S. 15c doz., 80c per 100.

**Bulblets.** We can furnish bulblets of Picardy, Los Angeles or Mixture of best varieties for 40c per pint, 75c per quart postpaid.

### BABY GLADIOLUS

Baby Glads may be planted Oct. to Dec. Bulbs are not good keepers into the late season so it is better to have them planted before Nov. 15. They are winter growers and endure light frost. Begin flowering in Feb. if early planted and winter is mild. Continue to bloom a long time. Lovely and graceful spikes for cutting. Thrips do not bother them in their season of growth.

**Culture.** Like large glads except they should be planted closer and not so deep. They like acid soil hence add peat or leaf mould but remembering porous soil loses its moisture rapidly. They must have abundant moisture always and almost daily watering if winter rains do not supply it.

**For pots.** Try a few up north or back east. Easy in sunny window in cool room.

**California Peach Blossom.** This variety has proven so superior in color and vigor of growth that we selected it above all for this year's offering. Peach blossom pink. Jumbo bulbs, 10c ea. 75c doz. \$5.00 per 100. Large bulbs, 6c ea. 60c doz. \$4 per 100.

**Tristis concolor.** The fragrant glad. Sweet, spicy fragrance at night only. Creamy white. 15" to 18" stems. 12c ea. Per 100 \$9.00.

**Tecalote hybrids.** Red shades, pink, orange, salmon, lavender, Large bulbs, 7c ea. 65c doz. \$4.25 per 100.

### WATSONIA

Close relative of the Gladiolus but winter growing and earlier to bloom. They grow as tall or taller. The flowers are smaller but in very lovely spikes, useful for cutting.

Watsonias do not receive the attention they deserve. The colors are varied in most pleasing tones and bloom early if planted early. Better even the second and third years. Easy to have them for Decoration Day or before in So. Calif.

In most cases we have discarded names and substituted the name of their color.



**Culture.** About the same as Glads. In the south they must be planted in early fall (Sept. best) as the bulbs sprout early. They would likely do well in the north if bulbs were obtained in early fall before sprouting, then stored at a temperature above 32° and planted as soon as the ground thaws in Feb. to Mar. Hardy at Washington D. C. The bulbs need not be dug until too crowded. Water frequently.

**Burbank's Lavender.** Large lilac flowers. 8c 75c doz. Per 100, \$6.00.

**Dazzler.** An evergreen variety. Blooms profusely in spring and occasionally thru the year. Scarlet. Delivery Dec. and Jan. Other times at buyers risk. 25c.

**Ed. Sturtevant.** Grenadine or light orange scarlet. 15c ea. \$1.25 doz.

**Giant Lavender.** Lavender, a much misused color name is near to blue. This flower is light rosolane purple, (orchid). The most magnificent and stately of all. Up to 8' tall. Large flowers. 25c ea. in all quantities.

**Grenadine Pink.** 20c ea.

**Liseran Purple.** Another "orchid" tone. 8c ea. 75c doz.

**Rose Pink.** 20c ea.

**Rosolane Purple.** "Orchid." 8c 75c doz.

**Marginata.** A species uniquely different. Very tall, slender, straight spikes with small flowers surrounding the stem for as much as upper 3'. Many lavender tones. Fine in flower arrangements. 10c. \$1 doz. \$7.50 per 100.

**White.** Its pure white flowers make it the favorite *Watsonia* of many. 6c ea. 60c doz.

**Assorted Colors.** Several colors included in a mixture. 6c ea. 60c doz. Per 100, \$4.00.

## MONTBRETIA

They are closely related to *Tritonias* as well as *Gladiolus*, *Watsonias* and *Ixias*. They do best in good loamy soil with leaf mold or peat added. A top mulch helps very much, as they should never dry out. Bulbs should never dry when dug but store them in slightly moist peat or soil, and for a short time only.

Plant in California from Dec. to early spring but as early as possible. In the north plant in early spring. Plant about 3" deep and 4" apart, in full sunlight. Give constant and abundant supply of water.

In the south, Montbretias should be dug only when necessary to move or thin them. They are winter hardy in milder sections of north with a liberal mulch as bulbs must not freeze. Where there is danger of bulbs freezing in ground lift them and store in cellar.

The following hybrids are a great improvement on the common old sorts. These grow 3' tall with many branched stems and large flowers up to 3" wide or more. They bloom here from July to late fall, a long season, and make fine cut flowers. Bulbs delivered about Nov., or as soon as dormant. Plant at once when received.

**Geo. Davison.** Uniform deep yellow. 10c ea. 75c doz.

**His Majesty.** Best and most popular. Scarlet with orange yellow center. 15c ea. \$1.25 doz.

## FREESIA

Freesias combine delicious fragrance with exquisite beauty. They are indispensable in the outside garden, or the window garden, and for cutting.

**Culture.** They are not hardy except in mild southern climates. Plant outdoors early, before Oct. if possible, tho they do well when planted as late as November 30. But late planted bulbs will grow short stems and smaller flowers. Plant 18 to the foot, or 12 in a single row. Cover two inches. Rich sandy loam is the best soil but they do very well in heavy soil. Give full sun exposure.

No spring flowering bulbs are more satisfactory in pots or window boxes inside. No incense, no fragrance nor beauty can be had for so little expense or trouble. Plant 2" apart in pots or boxes. Place at once in the sunniest window in a cool room. Few winter flowering bulbs like hot rooms. Do not water



heavily until up. Large bulbs started early often bloom by Christmas or soon after.

**Apotheose.** Large flowers opening mauve lilac and turning to carmine pink. Tall. 40c doz. \$2.50 per 100. Extra large bulbs, 50c doz.

**Baker's Super White.** Purest, largest and best white in the garden but not a sure bloomer in pots. L. 30c doz. \$2 per 100. Small bulbs \$1 per 100.

**Golden Daffodil.** The most popular freesia and the very best for growing in pots. Deep golden yellow. 35c doz. \$2.25 per 100.

**Golden Wonder.** Large very fine new yellow. 10c ea. 80c doz.

**Orchidea.** Soft pearly mauve with yellow throat. Tall strong stem with 5 extra large flowers open at one time. New. 10c ea. 80c doz.

**Pink Supreme.** Certainly is a supreme pink. 45c doz. \$2.50 per 100.

**Purity Superflora.** Improved Purity. Earliest, best white for forcing in pots or in garden, but Baker's White is better in garden. 30c doz. \$2 per 100.

**Penserosa.** Enormous flowers on tall stems. Soft pink with carmine throat and markings. New. 10c ea. 80c doz.

**Rose Supreme.** Like Pink Supreme but a little darker. 50c doz. \$3 per 100.

**Sunset.** Vivid apricot orange. Very fine. 45c doz. \$2.50 per 100.

**Tecalote hybrids.** When we first saw these we had to look close to be sure they were Freesias. Larger even than Baby Glads, some flowers are 2 1-2" in diameter and stems 24" to 30" long. They are truly sensational and offered this year the first time. Fragrant flowers in a variety of assorted colors, white, pink to red shades. **No choice in color.** Large bulbs 50c ea.

**Freesia Special.** Assorted colors. White may be omitted if you request it. 40 for \$1.00.

**Smaller Bulbs** for outside planting and flowering. Assorted colors. 100 for \$1. All white, 150 for \$1.

## SPARAXIS

The most vividly colored flowers of the spring blooming bulbs 8" to 12" tall. Flowers large. Culture like Ixias. Grow in pots like Freesias or outside in the south. Assorted Colors in which a vivid red or crimson predominates and is the best. 5c ea. 40c doz.

## TRITONIA

Tritonias are very close to Freesias. They are taller and flowers are larger. The culture is the same except that being larger a little more space is given. You can plant 2 1-2" apart in double row and 2 1-2" deep. They may be grown in the house but also like Freesias they must have sun.

**Prince of Orange.** Looks like a huge orange Freesia. 3 for 10c. 35c doz. \$2.25 per 100.

**Tritonia lineata.** Light yellow flowers, veined and flushed reddish orange on 2' stems. Strong growing and free flowering. 10c ea. \$1 doz.

## STREPTANTHERA CUPREA

Recently introduced close relative of Tritonia. Flowers brilliant orange red, very vivid. Hardier than Freesia, same culture. 5c ea. 50c doz.

## IXIA

Ixias grow about 2' to 5' tall. They have long wiry stems and are nice for cutting. Altho the flowers close at night and on dark days, the long closed buds are nicely colored and are attractive either closed or open.

**Culture.** Ixias are tender bulbs and in colder climates can be planted in the early spring. If planted in protected situations and well mulched in the fall the bulbs will survive most climates.

In the north they may also be grown in a cold frame or in pots in the house or greenhouse. Give full sun. In mild climates in the south, plant early and not later than Nov.

Plant about like Freesias but allowing more room, 12 to the foot in a double



row. Use no animal fertilizer.

**Ixia Bloem Erf hybrids.** Quite distinct and different from ordinary sorts. Height 4' to 5' White to pink with lavender and bluish tones. Flowers do not close at night. The slender spikes are lovely in bouquets. Bloom in the late spring. 7c ea. 60c doz. 100 for \$4.90.

**Mrs. Cleveland's.** Variety unknown; so labeled at present in memory of one who grew them. Color creamy white. When closed the flowers are like a long slender ovoid, each creamy petal crimson striped thru the center. Lovely in bouquets or garden. Jumbo bulbs 6c ea. 50c doz. \$3.50 per 100. Large bulbs 35c doz. \$2.50 per 100.

**Dutch Hybrids.** The colors range thru white, yellow, lavender, pink and red tones. Very fine. 10c ea. \$1 per doz.

**Red.** This is probably *Lapeyrousia cruenta*. Sometimes called scarlet Freesia. Not as tall and blooms later. 5c ea. 40c doz.

### BABIANA

Related to Freesias, Tritonias, etc. but quite distinct in appearance. Usually 8" or 10" tall, with pretty plaited leaves. Bloom in early spring. Culture like Freesias. Lovely in pots. Plant 6 in a 4" pot for a sunny window. Outside for edgings and rock gardens.

**Babiana Hybrids.** Fine mixture of shades of pink, red and blue, the blue predominating. 5c ea. 50c doz. \$4 per 100.

### IRIS

Some prefer to plant "Bearded Iris" in the fall. Beardless Iris transplant more safely then. If interested send for our Iris Price List .

### BULBOUS IRIS

These are Dutch Iris and Spanish Iris. The flowers are excellent for cutting, not being fragile like Bearded Iris.

**Culture.** Plant in the fall. Early planting is advisable though we have planted as late as Dec. But late planted bulbs do not grow 100% nor are the flowers as good. Plant about 3" deep and 4" apart. We plant double rows in a furrow like glads. Plant in full sun or partial shade. They should be well watered. They are hardy in eastern states but a mulch is advisable. They like wood ashes or lime in soil.

**Hart Nibbrig.** Lovely clear blue. .6c ea. 40c doz. Per 100, \$2.75.

**Imperator.** Tall large blue. 7c ea. 45c doz. Per 100, \$2.90.

**Poggenbeck.** Upper petals violet blue, lower, azure with yellow blotch. 8c. 65c doz.

**Van Everdingen.** Upper petals, creamy white, lower, light yellow with deep yellow blotch. Large 10c ea. 90c doz.

**Wedgewood.** Wedgewood blue. Early. Finest for cutting. Large bulbs. 10c. \$1 doz. Medium, 6c. 60c doz.

**Yellow Queen and Cajanus.** Nearly identical. If out of one will send the other. Tall deep yellow, small flowers. 7c. 65c doz.

**Mixed.** Colors included are not known but likely no yellow. Field run sizes from largest down to smaller blooming size. 40 for \$1. Smaller bulbs, 50 for \$1.

### IRIS RETICULATA

This smallest of Iris is an ideal bulb for potting. Fragrant violet blue flowers. Blooms Jan. to Feb. Four bulbs in a 5" pot. Set in full sun in a cool room. Hardy in south and north if well protected. 25c ea. or 4 for 80c.

**Marica gracilis.** Walking Iris or Apostle Plant. Beautiful but fugitive 2" flowers of white and blue with yellow and brown markings in center. Sword shaped leaves are very ornamental. A very nice pot plant in north and quite hardy in south. Very oddly the flowers are followed by a small plant. The



leaf like stem bends over and plants take root, thus "walking" away from mother plant. Requires half shade, plenty water. Special. 25c ea.

**Moraea** is the African representative of the Iris. They have a multitude of lovely and delicate flowers resembling gay butterflies on branching wiry stems. Iris-like in appearance. They flower through spring until very warm weather arrives and some will begin even in the fall.

**Culture.** The corms or bulbs may be planted about 3" deep and 6" apart in fall. Do well in full sun or partial shade. They are quite hardy in the south but in north the bulbs cannot be planted until very early spring. Obtain bulbs in fall and store in cellar. They do well in pots and are very unusual and attractive. In the south they are very desirable in the garden, a real "must have" item for borders or rock garden. We list only the best species.

**Moraea polystachya.** Two foot plant covered with myriads of loveliest flowers that look like butterflies. Petals are mauve, penciled with violet and have a bright yellow signal blotch or eye. Blooms 6 weeks after planting and continues 3 or 4 months. A most desirable new bulb. L. 15c. \$1.50 doz. Smaller blooming size bulbs. 8c. 75c doz.

**M. ramosa.** Similar in appearance but twice as tall and flowers are amber yellow with oval of yellow surrounded by dark blue in throat. Stream side plant that likes plenty of water. 20c.

**Dietes.** This genus also belongs to the *Moraea* tribe, in fact they have only recently been removed from the *Moraea* and given a new generic name. *Dietes* differ from *Moraea* in having a rhizome similar to Bearded Iris and sword-like leaves. Flowers are very much like those of *Moraea*, born on long wiry stems thruout summer into winter. **Culture** like Iris. They should be planted in fall or winter. Not hardy in north but are successfully grown in tubs that are removed to light basement in winter.

**Dietes catanulata.** Low growing species with waxy white flowers on a tall, perennial stem. 50c ea.

**D. Oakhurst hybrids.** New hybrids that soon make large clumps that are very ornamental in the garden. Flowers freely in summer with a few most of the time in winter. 2" fls. on 4' stems. A valuable addition to this group. \$1.00.

**D. iridioides.** White with yellow and blue markings. 25c ea.

**D. iridioides Johnsonii.** Flowers are about twice the diameter of the type variety above. Plant more robust. True variety, \$1.

**Homeria collina** belongs to the *Moraea* tribe, hence listed here. The corms are just like those of *Moraea* but plant and flower quite unlike it. There are one or two long leaves from the base of which arises a 24" graceful stem with orange flowers that last but one day, but so plentifully produced that there is a succession for at least six weeks. **Culture** like *Moraea*. Hardy in south. In the north the bulbs may be planted in the spring but must be purchased in fall and stored in a cool cellar to retard growth. 7c ea. 50c doz.

## LILACEAE

The Lily Family contains many bulbous plants besides the species *Lilium*, —or true lilies. Many call any bulb a "lily." It is incorrect, tho popular to say "Calla Lilies," "Crinum Lillies," etc. Members of this family include *Lilium*, *Brodiaea*, *Lachenelia*, *Muscari*, *Scilla*, *Onion*, *Garlic*, *Tulip*, *Hyacinth* and many plants that appear widely different, yet are closely related. *Liliaceae* and *Amaryllidaceae*, that is the Lily Family and the *Amaryllis* Family are rather closely related. The most distinguishing difference is that in the *Liliaceae* the seed pod appears inside the flower, a superior ovary, and in the *Amaryllidaceae* it forms beneath the flower, an inferior ovary.

**Liliums**, or true Lilies, have long been considered among the most beautiful and perfect of Nature's creations. So perfect in fact that the hybridizer has made little effort to improve them and that little has been unimportant as compared to results with *Roses*, *Hippeastrums*, *Iris*, etc.



**Culture.** It is best to plant in late fall or winter soon after tops die. We deliver bulbs about Nov. to Jan. or as soon as they become dormant naturally. Earlier to eastern customers. Plant 4" to 6" deep. Deep sandy loam is best soil, with good drainage. Use no manure around them. It is better to have a handful of sand under bulb and another around them. The varieties offered do quite well in full sun even in California but 25% to 50% shade is perhaps better, especially mid-day shade. The ideal situation is among low shrubs or plants that shade the ground but allow the Lily tops to reach the sunlight. Lilies reverse a human trait, they like to have their heads warm and their feet cool. It is good to mulch the ground, and allowing the ground to bake in full exposure to sun is very bad, sometimes fatal. Keep moist. Lilies prefer an acid soil, hence the addition of leaf mold or pulverized peat to the soil will help them do well and keep healthy. Our selection of varieties includes only the hardiest and easiest to grow in the garden both in south and north. All may be grown in pots.

**Lilium formosanum.** Large white flowers. Very hardy and easy to grow. Bulbs small. 20c ea. 3 for 50c.

**L. Harrisii.** The true Bermuda Easter Lily. These do well in So. California and other mild climates in the garden. The flowers are the purest white of any and they are the most refined in outline and form. L. 25c ea. 5 for \$1.00.

**L. tigrinum.** The true, well beloved, Tiger Lily. One of the hardiest and best. Salmon-red, spotted purplish black. 4 to 5' 15c, 25c and 35c ea. 3 for 40c, 65c or \$1.00.

**Please Note.** Plant your lily bulbs as soon as received. They will not keep long when exposed to air.

**Gloriosa rothschildiana.** Gloriosas are very close to true lilies. The unique and gorgeous flowers are red with yellow markings. As the flower ages it turns a darker pure red. This species is the most beautiful of the well named Gloriosas. Glory or Climbing Lilies. Also the most dependable. The stem will fall over so it must be staked or grown on a trellis to which it clings by means of tendrils on leaf tips.

Plant about Jan. to Feb. here in quite sandy soil containing leaf mould, well drained. In the south bulbs may be left in ground or dug and stored. In the north it is better to start in pots about Feb. and shift to garden. Delivery when tubers become dormant Nov. to Dec. 50c.

**Hemerocallis.** (Means beautiful for a day.) **Day Lilies.** Tho the flowers last but a day they are so freely produced that others take their place. Hardy and easy to grow in all climates. Culture very simple. Set them with crown just covered, in full sun. The plants will be delivered in winter.

**H. fulva.** The Orange Day Lily. During the blooming season the plant is freely decorated with the lovely orange lilies. 25c.

**H. Kwanso.** The Double Orange Day Lily is a variety of the species H. fulva and is the same except the flowers are double. 15c.

## DARWIN TULIPS

Our Tulip bulbs are American grown. They mature earlier in the north-west than in Holland and are sounder and better than imported bulbs. We do not offer top sized bulbs. They are at least twice as expensive and break up into small bulbs the first year. Our bulbs are 7-9 cm. circumference, or about 1 in. diam. or over and they grow larger the second year instead of breaking up into small bulbs.

This is the best bedding size. They give good flowers the first year. The bulbs advertised at 50 to 100 for \$1.00 (mixed) are usually very small bulbs that make small flowers on short stems. Our customers have reported 2' stems. Nov. planted bulbs should give nice sized flowers on a stem 12" or 15" tall, and will make fine cut flowers.

**Culture.** Don't forget that tulips are growing under ground all winter, therefore in California you must water them if rains are late, even tho they are not up.



Plant 4" deep (deeper in cold climates) and 4" apart in good rich sandy loam preferably, but any type of soil well enriched with old rotted manure will give excellent results.

These are mixed colors, named varieties of long stemmed, large flowering types—Darwins, Cottage and Breeders. These types do best in California. Preferable everywhere. They are similar in type and for the sake of brevity in our advertising we call them simply Darwin Tulips.

Please note. On account of the impossibility of importing Holland bulbs this year, Tulips are scarce. Order early.

**Tulip Special.** Well balanced mixture in which the best predominate. Strictly our own selection so do not state preference. If only certain colors wanted order those listed below. Price, 40 for \$1.00. 100 for \$2.40. 500 for \$11.50 1000 for \$21.00. You may have all Clara Butt, favorite pink, for the same price.

If you prefer to have exact colors or varieties, select from the following list. These are grouped under color classes. If one of the color is sold out when you order we will substitute another just as good. You may order by the color name or name the variety wanted. You may have all one variety in a color or assorted var. in the color. If desired each variety of an assortment may be labeled in quantities of six or more but single bulbs labeled in any quantity takes single prices.

**Red.** Wm. Pitt, Farncombe Sanders, Europe, Peter Barr, King Harold, La Merveille, Boadicea, Gesneriana spathulata.

**Pink.** Clara Butt, Madam Krelage, Barrone de la Tonnaye, John Ruskin (yellow pink.)

**Yellow.** Gesneriana lutea, Avis Kennicott, Inglescombe Yellow.

**Bronze.** Bronze Queen, U. S. A., Hamlet.

**Other Colors.** Orange King, (or.) Idyll, (old rose), Bleu Aimable., (blue-violet), Hippolyte, (deep lav.), Andre Doria, (deep maroon), Roi d'Islande, (old rose).

**Prices of named sorts.** Single bulbs labeled, 10c. Per doz. 50c. Fifty for \$1.75. 100 for \$3.25. 500 for \$16.00. 1000 for \$30. Any or all varieties may be selected to make up the quantity rates. All may be separately labelled, in quantity over 6, if desired. Unless requested all will go into one bag.

## HYACINTHS

Because of the war, we cannot this year offer Dutch Hyacinths. We suggest you plant as substitutes, Roman Hyacinths, Scillas, Lachenalias or Veltthermia listed below.

**Blue Roman Hyacinths.** Do much better (here as well as in the north) than Dutch Hyacinths. They also increase in number year after year while the Dutch gradually disappear. One bulb sends up several spikes. The flowers are not so crowded in the raceme and for that reason are more graceful as cut flowers. Plant preferably in very rich sandy soil or good garden loam into which leaf mold has been incorporated. Sept. is the best planting month. Large bulbs, 10c. \$1 per doz.

**Scilla.** Resembles the Roman Hyacinth. All are hardy in the north except *S. peruviana*, and all of very easy culture. Much more permanent than Hyacinths. They are lovely in the garden, in pots and for cutting.

***S. hispanica*.** Usually listed as *S. campanulata*. Blue flowers much like Roman Hyacinths. Half shade. Blooms well in pots. 6c ea. 50c doz.

***S. hispanica rosea*.** A variety with rosy pink flowers and rather larger than the Blue. 8c ea. 75c doz.

***S. italica*.** Has a dense raceme of lovely blue flowers 15" long or more. Full, sweet lilac fragrance. Bulbs and plant large. This is the "sp. unknown" we have offered before. 15c. \$1.50 doz.

***S. nonscripta rosea*.** (nutans). One of the most beautiful Scillas. Close to *hispanica*. Rosy flowers on tall stem. Half shade. 8c. 75c doz.



**S. Peruviana.** The short, stout scape is terminated by many flowered, conic, broad and compact raceme of flowers. Deep blue (or perhaps royal purple) is the most common color but a few of these may be white. This species is an outstanding subject in the garden and may be forced in pots. The only Scilla not hardy in Mass. but probably is at Washington, D. C. 25c. \$2.50 doz.

**Ornithogalums** are rather closely related to Hyacinths, Scillas etc. The following species are not as hardy as the common *O. umbellatum* or Star of Bethlehem but are hardy with some protection in milder northern sections as in parts of Ohio. In the north the bulbs may be stored until early spring or planted in cold frames or mulched. In the south they are very hardy and should be planted in the fall.

**O. arabicum.** The showiest species. The round black ovary in the center of the white flower is a beautiful contrast. Flowers in a compact raceme at top of stem giving the appearance of an umbel. Easy in pots. 10c. Per doz. \$1.00.

**O. thrysoides.** 15" stems topped by a dense many white flowered raceme, 3" wide. Flowers when cut will last six weeks and are shipped from South Africa to the London market. Easy in pots. 8c ea. 75c doz.

**Muscari or Grape Hyacinths** are the neatest and daintiest of early spring flowers. The raceme or spike resembles a small compact bunch of grapes. Culture very simple. Need not be disturbed for years and quite hardy. They force well in pots.

There are many species, much alike, so we offer only one, the best. **Heavenly Blue.** 3 for 10c. 40c doz. Per 100, \$3.00.

**Galtonia candicans. or Summer Hyacinth.** Four foot spikes with many white, bell shaped flowers. Valuable for cutting and landscape effect in back grounds. Bloom for a very long time. Bulbs delivered in late fall to early spring. Suggest planting here in January. They remain in ground in south for several years, but in cold climates it is best to dig and store tho deep planting and heavy mulch usually is safe. 10c ea. \$1 doz. Small bulbs 50c doz.

**Lachenalias or Cape Cowslips** furnish bright colorful flowers from late Nov. to Feb. depending on variety and time of planting. They have 12 to 24 fire-cracker like flowers nearly 1" long on a stem 6" to 9" tall.

Culture is similar to freesias. We plant in good rich sandy soil, 2" deep and 2" or 3" apart. They are ideal bulbs for pots, blooming earlier than most any other bulb. We recommend planting before Nov. 1. Earlier is better. Late planted bulbs grow and flower but are disappointing. These bulbs are especially useful as in the south they can be grown in the garden (or in the north in flats in the house or greenhouse) and potted when in full bloom. Nice little presents for friends. When the tops have died the bulbs must be dug and stored dry as they do not endure moisture very well when dormant. We offer only the very best, and most beautiful of varieties.

**Lachenelia Ada Bryson.** Flowers orange yellow, buds and ends of spikes reddish. Blooms late Dec. Leaves spotted reddish. Bright and attractive. 35c ea. Three for \$1. \$3.50 per doz.

**L. pendula superba.** Brilliant coral red, tipped green and purple. One of the best. Excellent Christmas plant. 25c ea. \$2.50 per doz.

**L. Rector of Cawston.** Flowers scarlet, citron and green. Free blooming. Leaves spotted red. 15c ea. \$1.50 per doz. \$12 per 100.

**Veltheimia Viridifolia.** Neither a picture nor words can accurately portray the beauty of this plant. For foliage alone it is superior. The vivid green leaves are wavy margined and form a nice rosette. In pots, or in the garden in So. Calif. and other very mild climates, it is in bloom by Dec. 15 and continues for about three months as large bulbs send up two or more spikes. The tubular, drooping flowers are densely placed on a long raceme. The color is most difficult to describe but let us call it a deep rosy or purplish pink of ineffable tones not found in any other flowers.



**Culture** is very easy. It prefers a sandy soil to which peat or leaf mould has been added. In pots the drainage should be perfect.

**Specially priced**, for the cost of two hyacinths. It's worth ten. 50c ea. \$6.00. doz. Extra large bulbs, 75c and \$1.00 ea.

### THE ALLIEAE

The onion tribe has until very recently been placed under **Lilaceae**. In this tribe belong *Allium*, *Brodiaea*, *Milla*, *Bessera*, *Leucocoryne* etc. But recent botanical writers submit good reasons for including them under **Amaryllidaceae**, altho the ovary is superior. The tendency also is to revise the idea of close relationship between Day Lilies and Lilies and to give them to the **Amaryllidaceae**.

Like an animal, every plant recapitulates the evolutionary changes thru which it has passed, in its own life history. In the effort to group plants according to their relationships it would seem to be necessary to begin the comparative study with the single cell from which every individual plant develops.

The characters of a plant are inherited from its two parents. The material which ultimately leads to vast differences in form must all be present in the original cell which has resulted from the fusion of the cells of pollen and ovules.

To discover this material which so powerfully affects development may require a better microscope than can ever be made. But at least plant relationships are partly the concern of the cytologist and geneticist. We must not be guided wholly by the final results in adult plants but look for the earliest appearance of characteristics that may result from factors contained in the cells, and study seeds and young seedlings and every phase of a plant's development, in order to discover exact relationships.

It is evident that such casual similarity as exists between plants like *Lycoris radiata* and *Nerine sarniensis* does not make them the same species nor even place them in the same genus. Another case is the similarity between the *Pancratium* and *Ismene*. Nor are such botanical characters as an inferior or superior ovary or a certain type of umbel a supreme guide except that they are preceded by other distinguishing characters. Some of these characters may be forever hidden in the cell. But others may appear and be observable in the seed and its embryo and in the young plant. First leaves often show relationships.

It is probable that all this would confirm the placing of this group in the **Amaryllidaceae**. We are leaving it with the **Lilaceae** in this catalog but hereafter we will probably list it under **Amaryllidaceae**.

**Culture note.** Most, and possibly all of the Allieae require neutral or alkaline soils. Therefore use no peat. We lost a good sized crop of *Alliums* that way.

***Allium neapolitanum grandiflorum*.** Improved form of this well known bulb. Large and attractive umbel of white flowers used for cutting. Forces well in pots. Fine in southern gardens. 6c ea. 60c doz.

***A. sativum*.** Burbank's Elephant Garlic makes huge bulbs that are often solid and when it breaks into cloves they are very large and peel easily which is a great advantage. Same flavor as small sorts. Ornamental in the herb garden as it grows very tall with a large globe of white flowers topping a tall, stiff stem.

***A. senescens*.** The leaves are narrow, flat and erect. Many deep lilac flowers in a dense globular umbel. 10c.

***Brodiaea*.** These natives of western America are hardy in the south but not guaranteed hardy in the north tho *capitata* and *laxa* have been so reported by an authority. **Culture.** They may be grown in pots like freesias. Ideal in the rock garden with ferns, columbines, etc., or for naturalizing. Plant 2" deep in any soil or situation but they like best a gritty soil and slight shade. Do not dig until necessary to thin them. Spring blooming.

***Brodiaea capitata*.** **California Hyacinth.** 12" to 18" tall and up to 20 flower stems per bulb. Violet blue. Plant early and they will begin to bloom in 6



weeks and flower until spring. Cultivated, not collected bulbs. 7c ea. 75c doz.

**B. coccinea.** (*Brevoortia Ida-Maia*) Floral Firecracker. Vividly colored red flowers shaped like a firecracker. Easy in pots. 12c.

**B. ixioides.** Golden Star. Large umbels of lovely bright yellow flowers. Does well in pots. 7c ea. 75c doz.

**B. laxa.** Large umbels of bluish violet flowers on 2' stem. Give partial shade. 15c ea. \$1.50 doz.

**B. uniflora.** (*Triteleia uniflora*.) Lovely porcelain blue flowers on a low plant. Chiefly grown in pots but lovely edgings in the garden in south. Bulbs should be dug and stored dry when dormant unless soil is dry. L. 7c ea. S. 6 for 20c. 35c per doz.

**Leucocoryne ixioides odorata.** Glory of the Sun is a recently introduced bulb. Its immediate popularity has scarcely been equaled. Already it is a standard but high priced florists flower. Cheaper to grow your own. Large, fragrant, blue flowers in spring.

**Culture,** like Freesias. Plant 4" deep. The exquisite flowers last a long time when cut. There is a large difference in sizes and prices of the bulb.

Top size (the largest) 15c ea. \$1.50 per doz. Per 100, \$11.00.

### OXALIDACEAE

*Oxalis* are bright cheerful flowers for the garden or pots. Flowers close at night or on cloudy days. In the garden plant 2" or 3" deep, in pots 1" deep and about 3 to a 5" pot. There are two types of *Oxalis* as to time of growth. The summer growing kinds are listed in our spring catalog. The following are winter growers. Perfectly hardy in the garden in the south and lovely pot plants for the north. They add a note of cheerfulness in a sunny window on a winter day. The colors are bright and lively and the cost insignificant.

**Oxalis Bowiei.** A large plant with bright rose red flowers. One bulb to a medium pot. 10c.

**O. cernua.** Bermuda Buttercup. The golden yellow flowers are profusely produced. 3 for 10c. 35c doz.

**O. Grand Duchess.** A lovely, large flowered but low growing type. Like a carpet of white, deep rose and lavender flowers in the garden or in pots. Assorted colors only, lavender predominating. 3 for 10c. 35c doz.

**O. hirta.** Makes a spreading leafy stem, of quite different appearance. Large, deep rose flowers. 10c ea. 65c doz.

### ORCHIDACEAE

Many think Orchids are the most beautiful of flowers. Most of them are so difficult to grow and so expensive that only the rich can buy them. The *Bletilla* is of easy culture. Plant 3" deep in loamy soil with peat added, in half shade, from Oct. to Mar. Hardy in the north.

**Bletilla. hyacintha.** Plaited bright green leaves. Dainty orchid shaped lavender flowers. Stems 10" to 15". Cuts well. Top size, 60c ea. Small 35c ea.

### ARACEAE

(Arums, Callas, etc.)

This family contains the so-called Calla Lilies or *Zantedeschia*, Black Callas and other Aroids.

**Culture.** All *Zantedeschias* and *Arum palaestinum* are suitable for pot culture. *A. palaestinum* will start about Sept. or later. Do not put this bulb into moist soil before that or it will rot. *Zantedeschias*, pink, yellow, spotted leaf and white callas may be potted by about December 15. Don't rush them as too much water before they start to grow may rot them. They may be held back and started in the spring. They all do well in the garden in a very moist semi-shaded place. They are not hardy in cold climates; dig in fall. The White Calla usually blooms in California in the garden in late winter. It is an error to keep them growing continuously. If rested through summer you will be re-



warded with flowers. A rest brings flowers when they start again, often twice or more in a year.

**Zantedeschia aethiopica, var. Baby Calla.** This is the smallest and whitest Calla. Small enough for corsage. 20c.

**Z. aethiopa, var. Godfrey Calla.** The best and most popular of dwarf Callas before "Baby" was introduced. Being twice as large as "Baby" makes it a "medium" size. This is so much more appropriate in size, freer in blooming and more desirable every way that we do not recommend the large type. 20c.

**Z. albo-maculata.** Spotted leaf-calla. The prettiest foliage of all and worth growing for that alone. Flowers, creamy white with dark throat. Large 15c and 20c.

**Z. elliotiana.** Pure golden yellow flowers. 15c to 25c, all blooming size.

**Z. rehmanni.** The famous pink Calla. Colors vary from pink to rose red. The plant and flowers are small, growing only to about 12". Blooming size, 50c. M.. 75c. L. \$1.00 ea.

**Arum italicum.** The dark green leaves are attractively lined with very light green, almost white. No bad odor. Flower very odd ivory white. Hardy. Plant in fall or early spring. 20c. Extra large 45c ea.

**A. palaestinum.** Solomon's Lily or Black Calla. Winter growing and the only Arum fit for pots. Plant and flower look like a Calla but the flower is really black. It has no strong disagreeable odor like some Arums. Blooming size 35c. Very large 75c. Must be ordered early as they cannot be held back very long.

**Dracuncus vulgaris.** A gorgeous tropical appearing plant and flower. The flower has very disagreeable odor when first open. May be planted in the spring in the east to a depth of 8" or more and will live over winter safely. Blooming size, 35c. Extra large, 75c.

## RANUNCULACEAE

This family includes Ranunculus and Anemones. Not all species of either make tubers but Ranunculus asiaticus and Anemone coronaria do. These are the Ranunculus and Anemone "bulbs" so popular in our garden. The modern garden hybrids are a vast improvement on wild sorts and probably more than one species or at least more than one variety are included in their ancestry.

**Ranunculus** range in color from red, pink, white to yellow. There is no blue. When well grown the earlier flowers are semi-double to very double in a variety of shapes. Some are in the form of a rose, other globular, camelia shaped or like a tuberous begonia.

**Anemones** are red, pink, white and blue in an endless variety of tones, but no yellow. The flowers are single to semi-double and some are full doubles. Personally we prefer the huge poppy-shaped single flowers. This type is called the de Caen. The double forms are desirable too and give a variety to the garden. They are the St. Brigid type. Many prefer these.

**Culture for Anemones and Ranunculus** is the same. They are very easy to grow if one conforms to their requirements. With us, Anemones, which are less exacting, come up and bloom from self sown seeds in the gardens. They prefer a good rich loam but will do well in very sandy or heavy soil if it has had a great deal of humus incorporated.

The soil should be rich. Therefore manure spaded in months before is the best preparation. They will stand a small amount of manure as a mulch but it must be well decayed and applied carefully or the plants will burn. Since the plants must have a constantly moist condition after they are well up a good mulch is especially desirable to maintain soil moisture.

In starting, the soil must be kept constantly moist but not soggy. They must also be cool. Should a few extremely hot days arrive at the time the bulbs are starting or even later a large portion or even all will either be killed or stunted. The combinations of heat and moisture in the dormant or sprouting bulb



is very likely to rot them. To lower the temperature of the soil bed, place a good shade of framed lath or even burlap high enough above the bed to allow the breeze to play freely and cool it.

It is best to delay planting until the threat of extremely hot days have passed. But here we have seen torrid days in Nov. and even Dec. In that case put up the shade "muy pronto."

One can partly escape the threat of heat by sprouting the bulbs in this way. Place them in a burlap sack and fold. Thoroughly wet the sack and place in cool deep shade. Sprinkle the sack daily and also around it to keep air cool. Plant the bulbs before the sprouts are 1" long and shade at once. This will take two or three weeks or more and thus set back the heat for that long and in the most critical stage. But you have not yet won the game. Keep them cool and moist. By daily sprinkling you may have gorgeous flowers in the south usually in Jan. Often in Dec. But if you allow Anemones and Ranunculus to get dry now and then the results are certain to fall short of expectations. Poorly grown Ranunculus are likely to be inferior, single flowers and lack also in luster and size.

Please note that we do not guarantee that anyone can grow Anemones and Ranunculus or any other bulbs, all the time. Occasionally weather conditions prevent success even in growing corn or wheat.

We send out no Anemones and Ranunculus that we do not plant ourselves in test plots. Every test last year showed favorable results. Yet about three people reported almost total failure with the same bulbs that hundreds of customers reported to grow with complete success.

Our policy always is to be honest to our customers and to ourselves. When, if ever, our bulbs do not test out a sufficiently high percentage we shall replace them.

But we caution you perhaps too much. Everyone can grow Anemones and Ranunculus by our directions if patience and care be used.

Prices. Ranunculus. Mixed colors. 15c doz. 50 for 55c. 100 for \$1.00. 500 for \$4.00. 1000 for \$7.50.

Yellow Ranunculus. 25c doz. 50 for \$1.00. 100 for \$1.75. 500 for \$6.50. 1000 for \$12.00.

Red Ranunculus. 30c doz. 42 for \$1.00. 100 for \$2.25.

Ranunculus. Assorted colors. Large bulbs. 35c doz. 3 doz. for \$1.00. 100 for \$2.50. 500 for \$10.00.

Anemones. Assorted colors and types. 15c doz. 50 for 55c. 100 for \$1.00. 500 for \$4.00. 1000 for \$7.50.

Anemones. Single flowering Poppy or de Caen type. Assorted colors; Blue Poppy; His Excellency, red. Either sort, 25c doz. 100 for \$1.75. 500 for \$7.50. 1000 for \$13.50.

Anemone, Blue Poppy. Extra large and jumbo bulbs, two years old. Should make larger plants and more flowers. 35c doz. 3 doz., \$1.00. 100 for \$2.50.

Anemone, Blue Poppy seed. Plant thick about Sept. Cover slightly and shade. Keep constantly moist. Transplant to bed when about 1" or 2" high. Packet 10c.

Anemone, Sylphide, a rare de Caen, violet to violet pink. 45c doz. 28 for \$1.00. 100 for \$3.50.

California cutsomers. Don't forget the 3% sales tax, please.

Free bulbs. If you send me \$1.00 for a years subscription to Madison Cooper's Gardening, and 10c for handling charges I will send free 10 bulbs of Zephyranthes candida.

ADDENDUM—Lilium regale. Lg. fragrant flowers tinted pink, creamy throat. Hardest and easiest to grow and one of the best. Old clumps get better every year. Small bulbs bloom with usually only one or two flowers on short stem, hence we list only lg. bulbs this fall that will give more flowers per unit of cost. L., 6"-7" bulbs, 25c, five for \$1.00.